

REMARKS

This Response is in response to the first Office action mailed on 9 September 2005 (Paper No. 20050824). Claims 1 through 20 are pending.

In Paper No. 20050824, the Examiner rejected claims 1, 2, 3 and 17 under 35 U.S.C. 103 (a) as being unpatentable over USP 6,822,420 to Kozu et al. Applicant has the following comments.

Regarding claim 1, Applicant claims, “a safety circuit board disposed in an external void within said battery unit, said external void being defined as being between the first and second secondary battery cells”. In Paper No. 20050824, the Examiner states that FIGS. 17, 20 and 21 of Kozu teaches this feature and that reference numeral 130 of Kozu is a safety circuit board. Applicant disagrees.

To begin with, Applicant submits that reference numeral 130 of Kozu is a vent, not a circuit board. Applicant further submits that vent 130 is on an opposite side of a battery 102 than circuit board 103 of Kozu. Because of all of this, Applicant submits that the rejection of claim 1 in Paper No. 20050824 is entirely faulty.

As is clearly evidenced by FIG. 20 of Kozu, neither circuit board 103 nor any of the vents 130 are *between* two battery cells as claimed by Applicant. Applicant submits that

circuit board 103 in Kozu is located at a side of battery pack 101 and is not located between any of the batteries 102. For this reason, Applicant submits that Kozu can not possibly meet the claim limitations of Applicant's claim 1. Furthermore, Applicant has reviewed the entire reference to Kozu and can not find any teaching of a safety circuit board located between two battery cells. Therefore, the rejection to claim 1 must be withdrawn.

Regarding claim 17, Applicant claims a safety circuit board being disposed in such a way as to not add to the size of the battery unit. In Paper No. 20050824, the Examiner states that this feature is taught by FIGS. 5, 20 and 21 of Kozu citing reference numerals 5, 20 and 130 of Kozu. Applicant disagrees.

Applicant submits that reference numeral 130 of Kozu is a vent, not a circuit board. Applicant also submits that reference numeral 20 of Kozu is a terminal, not a circuit. Regarding reference numeral 5 of Kozu, reference numeral 5 is a protection circuit which is part of circuit board 3. Applicant submits that reference numeral 5 and reference numeral 3 of Kozu greatly add size to the battery unit of Kozu. The reason for this is unlike Applicant's invention, Kozu does not fold or stack individual cells on top of each other to form a space as in Applicant's invention. For this reason, the circuit board, including the protection circuit of Kozu does indeed add volume to the battery package of Kozu. Applicant further points out that the terminals 12 and 13 of Kozu are thin foil, and are thus easily bendable and thus would not take up much space in Kozu but for the inclusion of the

circuit board 3. For these reasons, Applicant submits that Kozu can not be said to fairly teach or suggest the claim limitations of Applicant's claim 17. Therefore, the claim rejection must be withdrawn.

In Paper No. 20050824, the Examiner rejected claims 4, 6, 7, 8, 10, 12, 13 and 20 under 35 U.S.C. 103 (a) as being unpatentable over Kozu '420 in view of USP 6,423,449 to Hong.

Regarding claim 6, Applicant claims "wherein the case cover is folded such that the spaces are stacked on top of each other" and "a safety circuit board, disposed in a external void defined by the folding of the case cover". Applicant submits that neither Kozu nor Hong, taken either singly or in combination, teaches or suggests a folded case cover.

To begin with, Kozu teaches a case 2a and 2b with many spaces, but never teaches or suggests folding the case cover 2a/2b. Hong teaches a single cell formed by folding separator 200. Applicant submits that separator 200 (or reference numeral 204) is not a case cover. Separator 200 of Hong is an insulating film that separates the cathode plates 300 from the anode plates 400. Separator 200 of Hong is never used to surround a cell. Separator 200 is used instead to make up a single battery cell. Because of this, Applicant submits that the Examiner's understanding of Hong is entirely faulty. Because of this misunderstanding on the part of the Examiner, Applicant submits that the rejection to Applicant's claim 6 in Paper

No. 20050824 is entirely without merit.

Applicant further submits that if Hong were to be combined with Kozu, Applicant's claimed invention would not result. Applicant teaches a structure of a battery made up of many cells. Hong teaches a structure for a single cell. Hong does not teach a battery made out of many cells. If Hong were incorporated into Kozu, Applicant's invention would not result as such a modification to Kozu would only affect the construction of a single cell in Kozu and would not teach that case 2a and 2b of Kozu could or should be folded. Therefore, Applicant submits that the combination of Hong and Kozu could not possibly result in Applicant's claimed invention.

Regarding claims 6 and 10, Applicant claims a case that comprises a plurality of spaces and a plurality of battery cells, each having terminals that perforate the case. On page 5 of Paper No. 20050824, the Examiner states that this is taught by FIG. 21 of Kozu. Applicant disagrees.

Applicant submits that FIG. 21 of Kozu shows a single cell 102. Applicant submits that outer body 111 in FIG. 21 does not have a plurality of spaces for a plurality of battery cells. Instead, outer body 111 in FIG. 21 of Kozu can only have one space for one cell.

This is evidence of a clear misunderstanding on the part of the Examiner of Kozu. In

Kozu, case 2a/2b does have a plurality of spaces to house a plurality of battery cells (See FIGS. 1A and 1B of Kozu for example). However, in Kozu, case 2a/2b is not perforated by the electrodes. Instead, the electrodes are connected to board 3 inside case 2a/2b. However, case 4 of Kozu has only one space to house only a single cell (see FIG. 2C of Kozu for example). Case 4 in Kozu is perforated by the electrodes 11 and 12. Kozu is absent any case that both 1) has a plurality of spaces for a plurality of battery cells and 2) is perforated by the terminal electrodes. Because of this, Kozu nor Hong can not possibly meet the claim limitations of Applicant's claims 6 and 10. Therefore, the rejections in Paper No. 20050824 must be withdrawn.

In Paper No. 20050824, the Examiner rejected **claims 5 and 9** under 35 U.S.C. 103 (a) as being unpatentable over Kozu in view of Hong and further in view of Spillman. The Examiner turns to Spillman for a teaching of a helically wound battery. Applicant objects. Applicant submits that one having ordinary skill in the art would not be inclined to turn to both Hong and Spillman to fill in for the deficiencies of Kozu.

Kozu is somewhat silent regarding the construction of each individual battery cell. Hong teaches that a battery cell can be made by folding a separator sheet 200 having cathode electrodes on one side and anode electrodes on the other side. Spillman teaches an elliptical-shape cell. Applicant submits that one having ordinary skill in the art would not turn to both folded and elliptical designs for individual cell designs.

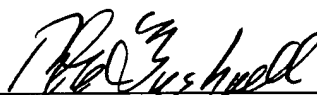
In Paper No. 20050824, the Examiner rejected **claims 11, 14-16, 18 and 19** under 35 U.S.C. 103 (a) as being unpatentable over Kozu in view of Kawakami. The Examiner turns to Kawakami for an alleged teaching of folding a case onto itself to stack individual battery cells on top of each other. Applicant disagrees.

Like Hong, Kawakami does not teach folding of a case that holds a plurality of battery cells. Instead, Kawakami teaches folding a separator having cathode and anode electrodes thereon to form a single cell. Therefore, Kawakami can not fairly teach or suggest Applicant's claims 11, 14-16, 18 and 19. Therefore, the claim rejections to these claims must be withdrawn.

In view of the above, it is submitted that all of the claims now present in the application are patentable over the cited references, taken either alone or combination and accordingly should now be in a conditions suitable for allowance.

No fees are incurred by the filing of this Response.

Respectfully submitted,

A handwritten signature in dark ink, appearing to read "R. E. Bushnell", is written over a horizontal line.

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